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JOHN S. PRATT, ESQ
KILPATRICK STOCKTON, LLP
1100 PEACHTREE STREET
SUITE 2800
ATLANTA, GA 30309

EXAMINER	
BERNSTEIN, DANIEL A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,074	MCFADDEN, DAVID	
	Examiner	Art Unit	
	DANIEL A. BERNSTEIN	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/14/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,21-31,33-37 and 49-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,21-31,33-37 and 49-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/03/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-6, 9-11, 26-31, 33 and 41-42 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,713,741 to Miller in view of US 5,934,178 to Caridis et al and US 7,424,848 to Jones et al.

In regards to claim 1, Miller discloses a conveyor oven for cooking a food product (see Fig. 1), comprising: a cooking tunnel (11). Miller does not teach at least first and second cooking zones **each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel**,

. Miller discloses a housing (14) defining a cooking chamber (11); means for supplying microwave energy to the cooking chamber (Miller teaches a heat source 21 which can be a microwave such as a magnetron, col. 6 lines 21-36):

Miller does no teach a conduit means for circulating gas to and from the cooking chamber (Miller discloses other heating means such as a gas burner which would obviously have conduit means to move gas to and from the chamber), a flow means for

causing circulation of the gas; a means for heating the gas; a first gas directing means disposed above the food product; the first gas directing means being operably associated with the conduit means; and a second gas directing means disposed above the food product, the second gas directing means also being operably associated with the conduit means; Wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or above the upper surface of the food product.

Miller discloses means for inhibiting escape of microwave energy (door 15) from the cooking tunnel, such means comprising a moveable ingress door (first door 15 where food enters through the conveyor) and a moveable egress door (second door 15 in which food exits the cooking chamber); and a conveyor (conveyor belt 30) comprising a belt (belt on 30).

Miller does not teach that the belt is configured to convey the food product from the first cooking zone to the second cooking zone.

Miller discloses that the food product dwells (the food product is conveyed to the oven cavity where a control program stops the motor to the conveyor and closes the doors so that the food product can be heated, Col. 9 lines 5-30) for a controllable length of time in at least the first cooking zone (Miller only discloses a first cooking zone); and in which the ingress and egress doors (doors 15) are closed (Col. 9 lines 11-16) when microwave energy is being supplied (Miller discloses that the heat source 21 can be a microwave) to the first cooking zone and at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the

second cooking zone (when the food product is done heating the control of Miller opens the doors and conveys the food out of the chamber. Miller does not teach however that there is a second cooking zone).

Caridis teaches a conduit means (45 and 47, Fig. 3) for circulating gas to and from the cooking chamber (hot air enters cooking chamber through risers 61 and exits through exhaust stacks 16)

Miller discloses other heating means, such as a gas burner, which would obviously have conduit means to move gas to and from the chamber.

Caridis teaches a flow means (blower 48) for causing circulation of the gas; a means for heating the gas (heating means 41, Fig. 2); a first gas directing means (see annotated Fig. 3 where 46 is divided into sections defined by risers 61, where the first riser is the first directing means and the second riser to the left is the second directing means) disposed above the food product; the first gas directing means being operably associated with the conduit means (45 and 47); and a second gas directing means disposed above the food product, the second gas directing means also being operably associated with the conduit means; Wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or above the upper surface of the food product (the air from the first and second conduits mix above the food product). In the arguments submitted by the applicant after the non-final rejection, the applicant argued that there is not sufficient evidence to suggest that the lower and upper gas flows of Caridis are "colliding". The examiner respectfully disagrees, because the lower and

upper conduits are delivering gases into the same chamber. It is therefore inherent and obvious to one of ordinary skill in the art that some of these gases will collide.

Caridis teaches that the belt is configured to convey the food product from the first cooking zone to the second cooking zone (Caridis teaches multiple cooking zones as the food product is conveyed through the oven). However, Caridis as well as Miller does not teach separate discrete cooking zones where food is prepared at the same or different cooking temperatures in each zone.

Jones teaches a high speed conveyor cooking oven (see Fig. 3) with first (first cooking zone 31A) and second cooking zones (second cooking zone 31B) where **each cooking zone** (31A and 31B) **comprising a separate and discrete cooking area** (31A and 31B each have separate heating elements 17A and 17B, which are capable of cooking the food products 12 at the same or different temperatures, see Col. 6 lines 35-45 and Col. 6 lines 64-67 and Col. 7 lines 1-7) **within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel.**

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Caridis for the purpose of providing Miller's apparatus with a convective cooking means. It is well known to someone of ordinary skill in the art to combine microwave and convective cooking so that the food product is cooked rapidly without impacting negative flavor characteristics on the food which is inherent in food cooked in a microwave. Furthermore, combined microwave and convective ovens are widely used and well known. To apply this concept to a

conveyor oven would have been obvious, because there are only so many known options to cook a food product more quickly. To solve this problem, one of ordinary skill in the art would have considered a microwave generator. Furthermore, it would have been obvious to one of ordinary skill to combine Miller with Caridis, because all of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Jones for the purpose of providing the conveyor oven of Miller with multiple cooking zones capable of cooking a food product at the same or different temperature in each zone. It is well known in the art that in some instances it is desirable to cook a food product under different temperature conditions during the cooking process. Common examples would be thawing and browning a food product. The optimum temperature for thawing and browning a food product are very different as explained by Jones. Therefore it would have been obvious to one of ordinary skill to design a conveyor oven which was capable of cooking foods at different temperatures throughout the cooking process in light of the teachings of Jones.

FIG_3

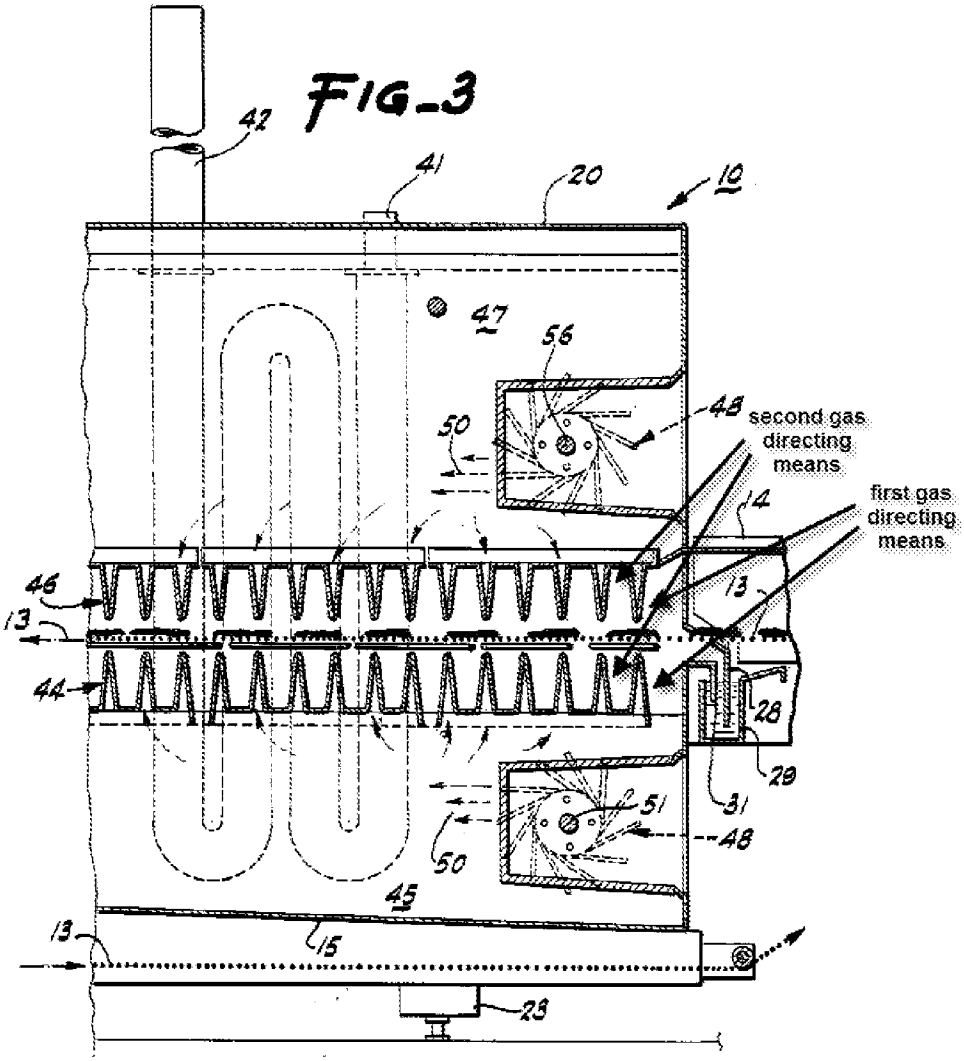

42
41
20
10
47
56
48
second gas directing means
50
14
first gas directing means
46
13
44
28
29
31
51
48
50
45
13
15
23

FIG_2

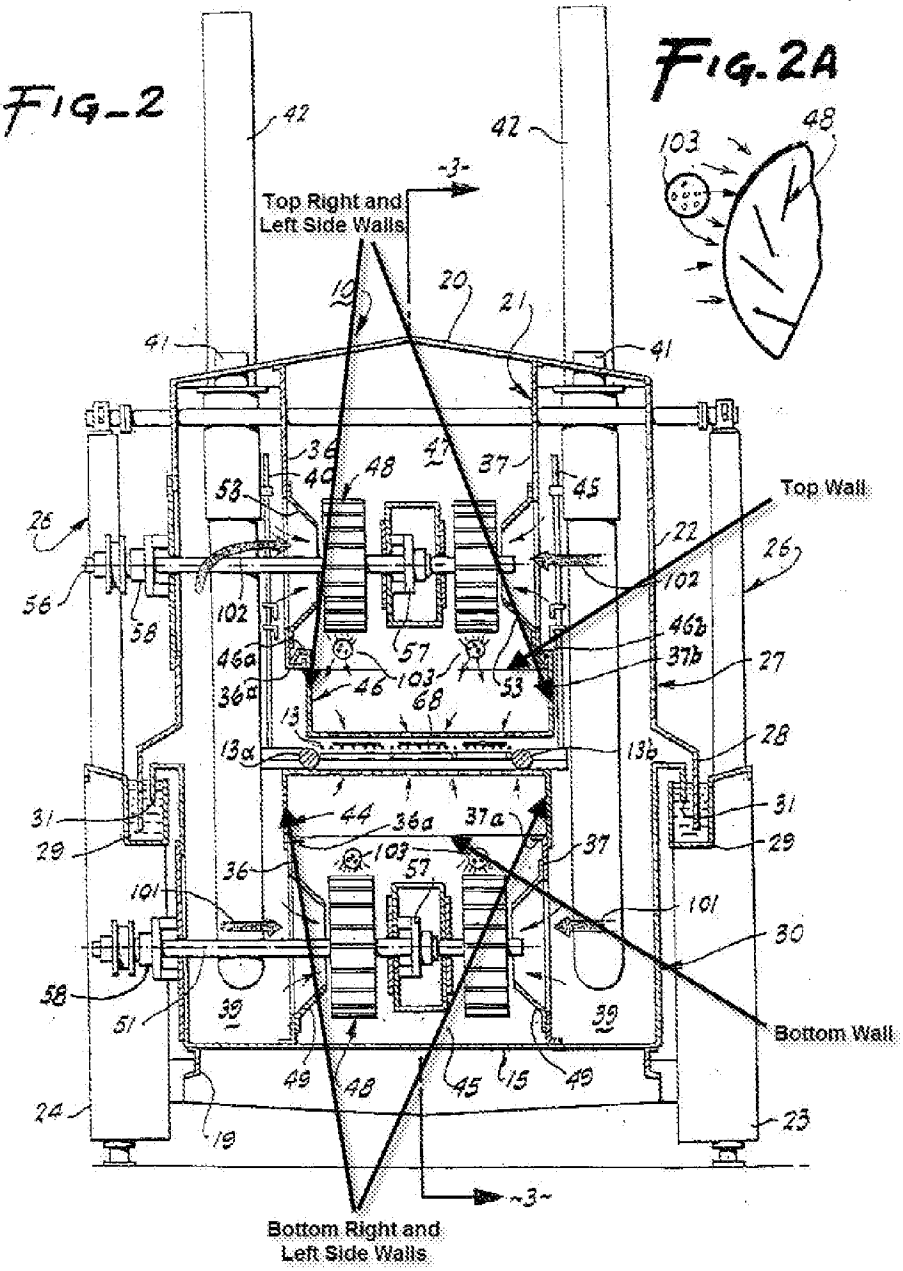

Top Right and Left Side Walls
Top Wall
Bottom Wall
Bottom Right and Left Side Walls

FIG. 2A

In regards to claim 2, Miller discloses a conveyor oven for cooking a food product (see Fig. 1), comprising: a cooking tunnel (11). Miller does not teach a first and second cooking zones, **each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel**.

Miller discloses a housing (14) defining a cooking chamber (11); means for supplying microwave energy to the cooking chamber (Miller discloses a heat source 21 which can be a microwave such as a magnetron, col. 6 lines 21-36).

Miller does not teach a conduit means for circulating gas to and from the cooking a flow means for causing circulation of the gas; a means for heating the gas; a first gas directing means disposed below the food product; the first gas directing means being operably associated with the conduit means; and a second gas directing means disposed below the food product, the second gas directing means also being operably associated with the conduit means; wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or below the lower surface of the food product.

Miller discloses means for inhibiting escape of microwave energy (door 15) from the cooking tunnel, such means comprising a moveable ingress door (first door 15 where food enters through the conveyor) and a moveable egress door (second door 15

in which food exits the cooking chamber); and a conveyor (conveyor belt 30) comprising a belt (belt on 30).

Miller does not teach that the belt is configured to (i) convey the food product from the first cooking zone to the second cooking zone.

Miller discloses that the food product to dwells (the food product is conveyed to the oven cavity where a control program stops the motor to the conveyor and closes the doors so that the food product can be heated, Col. 9 lines 5-30) for a controllable length of time in at least the first cooking zone (Miller only discloses a first cooking zone): and in which the ingress and egress doors (doors 15) are closed (Col. 9 lines 11-16) when microwave energy (Miller discloses that the heat source 21 can be a microwave) is being supplied to the first cooking zone and at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone (when the food product is done heating the control of Miller opens the doors and conveys the food out of the chamber. Miller does not teach however that there is a second cooking zone).

Caridis teaches a conduit means (45 and 47, Fig. 3) for circulating gas to and from the cooking chamber (hot air enters cooking chamber through risers 61 and exits through exhaust stacks 16)

Miller discloses other heating means, such as a gas burner, which would obviously have conduit means to move gas to and from the chamber.

Caridis teaches a flow means (blower 48) for causing circulation of the gas; a means for heating the gas (heating means 41, Fig. 2); a first gas directing means (see annotated Fig. 3 where 46 is divided into sections defined by risers 61, where the first riser is the first directing means and the second riser to the left is the second directing means) disposed above the food product; the first gas directing means being operably associated with the conduit means (45 and 47); and a second gas directing means disposed above the food product, the second gas directing means also being operably associated with the conduit means; Wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or above the upper surface of the food product (the air from the first and second conduits mix above the food product). In the arguments submitted by the applicant after the non-final rejection, the applicant argued that there is not sufficient evidence to suggest that the lower and upper gas flows of Caridis are "colliding". The examiner respectfully disagrees, because the lower and upper conduits are delivering gases into the same chamber. It is therefore inherent and obvious to one of ordinary skill in the art that some of these gases will collide.

Caridis teaches that the belt is configured to convey the food product from the first cooking zone to the second cooking zone (Caridis teaches multiple cooking zones as the food product is conveyed through the oven).

Jones teaches a high speed conveyor cooking oven (see Fig. 3) with first (first cooking zone 31A) and second cooking zones (second cooking zone 31B) where **each cooking zone** (31A and 31B) **comprising a separate and discrete cooking area**

(31A and 31B each have separate heating elements 17A and 17B, which are capable of cooking the food products 12 at the same or different temperatures, see Col. 6 lines 35-45 and Col. 6 lines 64-67 and Col. 7 lines 1-7) **within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel.**

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Caridis for the purpose of providing Miller's apparatus with a convective cooking means to impart different cooking conditions to the food product. It is well known to someone of ordinary skill in the art to combine microwave and convective cooking so that the food product is cooked rapidly without impacting negative flavor characteristics on the food which is inherent in food cooked in a microwave. Furthermore, combined microwave and convective ovens are widely used and well known. To apply this concept to a conveyor oven would have been obvious, because there are only so many known options to cook a food product more quickly. To solve this problem, one of ordinary skill in the art would have considered a microwave generator. Furthermore, it would have been obvious to one of ordinary skill to combine Miller with Caridis, because all of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Jones for the purpose of providing the conveyor oven of Miller with multiple cooking zones capable of cooking a food product at the same or different temperature in each zone. It is well known in the art that in some instances it is desirable to cook a food product under different temperature conditions during the cooking process. Common examples would be thawing and browning a food product. The optimum temperature for thawing and browning a food product are very different as explained by Jones. Therefore it would have been obvious to one of ordinary skill to design a conveyor oven which was capable of cooking foods at different temperatures throughout the cooking process in light of the teachings of Jones.

In reference to claim 3

Miller in view of Caridis and Jones discloses the oven of claim 1 further comprising: a first lower gas directing means (see annotated Fig. 3, Caridis) disposed below the food product; the first lower gas directing means being operably associated with the conduit means (45); and a second lower gas directing means disposed below the food product (see annotated Fig. 3, Caridis), the second lower gas directing means also being operably associated with the conduit means (45); wherein the first and second lower gas directing means are configured to cause the gas from the first lower gas directing means to collide with the gas from the second lower gas directing means upon or below the bottom surface of the food product (see rejection of claim 1 and 2, Caridis).

In reference to claim 4

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein each cooking zone cooks the food product independently of the other cooking zones (Jones shows multiple cooking zones 31A and 31B which cook the food product independently at different temperatures).

In reference to claim 5

Miller in view of Caridis and Jones discloses the oven of claim 1 further comprising: a control means for controlling the gas flow (controlling the temperature of the oven inherently teaches controlling "gas flow", column 3 lines 56-62, Caridis).

In reference to claim 6

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the gas exits the cooking chamber via the top wall (exhaust 16 is located on a top wall, Fig. 1, Caridis).

In reference to claim 9

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the flow means is a blower motor (48, Caridis).

In reference to claim 10

Miller in view of Caridis and Jones discloses the oven of claim 9 wherein the blower motor runs at variable speeds (column 7 lines 43-43, Caridis).

In reference to claim 11

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the heating means is an electric resistance heater (see abstract lines 8-9, Caridis).

In reference to claim 26

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the first gas directing means and the second gas directing means are located within a top wall (see annotated Fig. 2 for the top wall and annotated Fig. 3 for the gas directing means, Caridis).

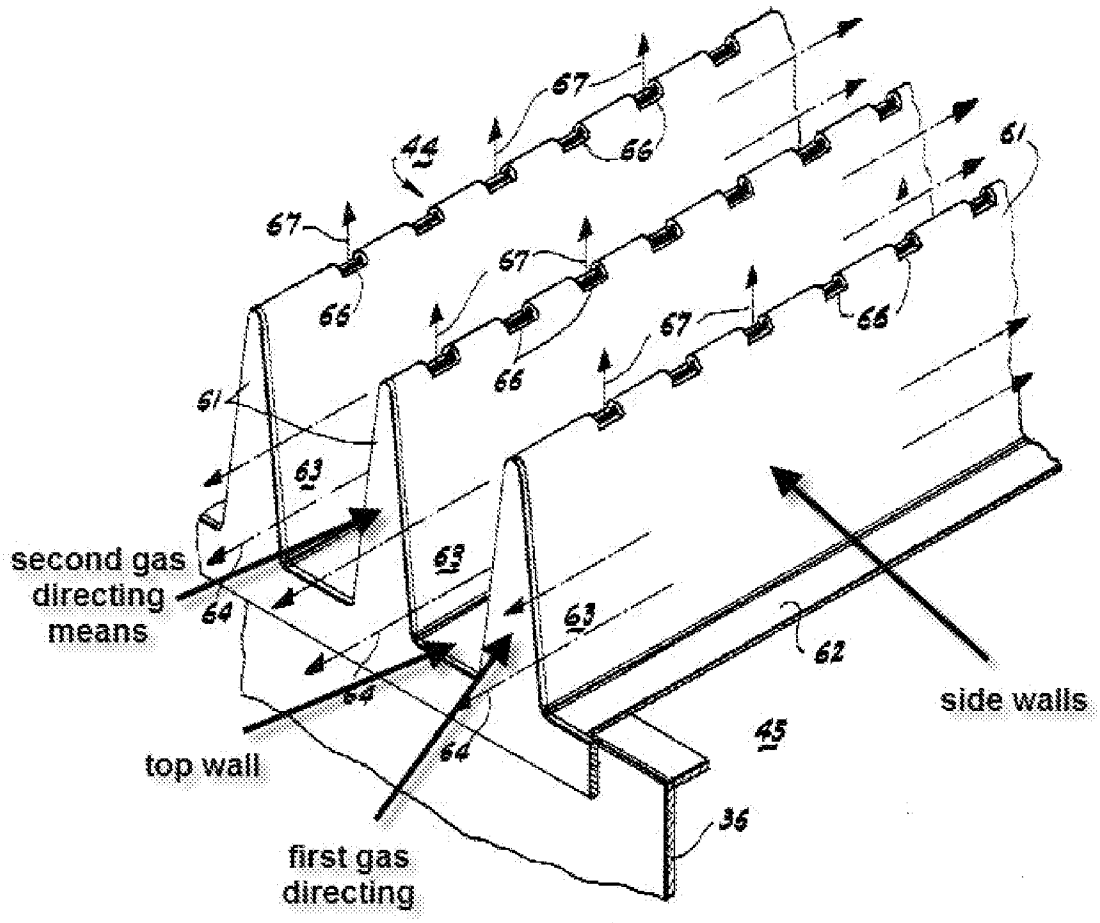
In reference to claim 27

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the first gas directing means and the second gas directing means are located within the right and left side walls. The specification does not specify which walls are considered the right and left side walls and which way the walls are oriented. Therefore, the first and second gas directing means (see annotated Fig. 3, Caridis) are disposed within the front wall of 10 and the back wall of 10 (Fig.l, Caridis).

In reference to claim 28

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the housing has side walls (see annotated Fig. 6 below, where Caridis discloses side walls and a top walls dividing up the gas directing means) the gas directing apparatus and a top wall (top wall intersects with side walls) intersecting therewith and the first gas directing (see first and second gas directing means in annotated Fig. 6) means and the second gas directing means are located at the intersection of the side walls and the top wall (the top walls intersect the side walls dividing the first and second gas directing means which are located at the intersection).

FIG-6



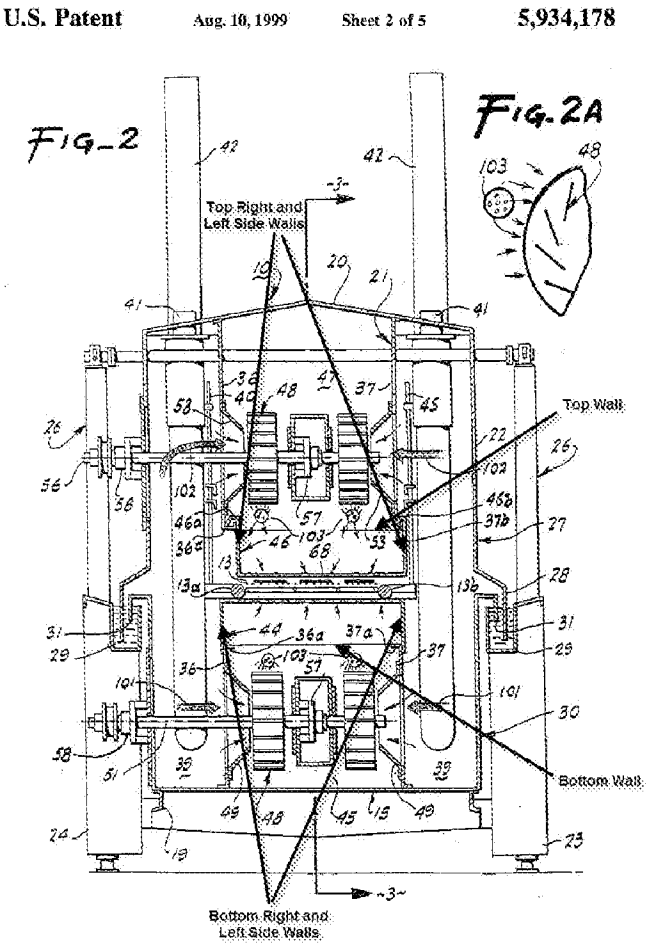
In reference to claim 29

Miller in view of Caridis and Jones discloses the oven of claim 1 wherein the housing has a back wall (back wall of cooking chamber 14, any cooking chamber with four walls has a front, back and two side walls, Miller, Fig. 1), but does not teach that the first gas directing means and the second gas directing means **form a portion of a back gas transfer system and wherein the back gas transfer system is** located

within a back wall (the first and second gas directing means are formed on one plate or back wall (36), see annotated Fig. 6 above, Caridis teaches a conduit means (45 and 47, Fig. 3) for circulating gas to and from the cooking chamber (hot air enters cooking chamber through risers 61 and exits through exhaust stacks 16), however Caridis does not teach that the second gas directing means **form a portion of a back gas transfer system and wherein the back gas transfer system is** located within a back wall).

Jones teaches a high speed cooking device and method in which a ducting system that is housed in a back wall (see 78, Fig. 4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Jones for the purpose of rearranging the parts of Miller so that the gas directing means are located within a back wall of the conveyor system. It would have been obvious to someone of ordinary skill in the art at the time of the invention rearrange and reorient the first and second gas directing means as evidenced by Jones. Placement of the gas directing means in a back wall of the conveyor would have merely been a design choice and would not have changed the functionality and operation of the conveyor and would not have led to unexpected results at the time of the invention. Therefore, it would have been obvious to combine Miller with Jones in order to change the location of the back gas transfer system so that it is located within a back wall.



In reference to claim 30

Miller in view of Caridis and Jones discloses the oven of claim 2 wherein the housing has a bottom wall (bottom wall of cooking chamber 14, any cooking chamber with four walls has a front, back and two side walls, Miller, Fig. 1) and the first lower gas directing means and the second lower gas directing means **comprise gas discharge plates that are associated with** a bottom wall (Caridis shows multiple lower gas discharge plates in Fig.3).

Also, it would have been obvious rearrangement of parts to reorient the lower first and second gas directing means to be located on the bottom wall. This obvious rearrangement of parts would have been within the capabilities of someone of ordinary skill in the art and it would not have led to undue experimentation or unexpected results.

In reference to claim 31

Miller in view of Caridis and Jones discloses the oven of claim 2 wherein the housing has right and left side walls (right and left side walls of cooking chamber 14, any cooking chamber with four walls has a front, back and two side walls, Miller, Fig. 1) and the first lower gas directing means and the second lower gas directing means are located within the right and left side walls (see annotated Fig. 6 where the side walls have a left and right side and the gas directing means are disposed in between them, Caridis).

Also, it would have been obvious rearrangement of parts to reorient the lower first and second gas directing means to be located on the side walls. This obvious rearrangement of parts would have been within the capabilities of someone of ordinary skill in the art and it would not have led to undue experimentation or unexpected results.

In reference to claim 33

Miller in view of Caridis and Jones discloses the oven of claim 2 wherein the housing has a back wall (back wall of cooking chamber 14, any cooking chamber with four walls has a front, back and two side walls, Miller, Fig. 1) and the first lower gas directing means and the second lower gas directing means are located within a back

wall (the first and second gas directing means are formed on one plate or back wall, see annotated Fig. 6 above).

Also, it would have been obvious rearrangement of parts to reorient the lower first and second gas directing means to be located within a back wall of the cooking chamber. This obvious rearrangement of parts would have been within the capabilities of someone of ordinary skill in the art and it would not have led to undue experimentation or unexpected results.

In reference to claim 41

Miller in view of Caridis and Jones discloses the oven of claim 1 further comprising: at least two additional gas directing means for direction on at least one further food product (see annotated Fig. 3 which shows at least two additional gas directing means on at least one additional food product, Caridis).

In reference to claim 42

Miller in view of Caridis and Jones discloses an ingress door disposed at one end of the cooking tunnel (door 15 with absorption material 25 along the bottom to facilitate sealing the door, Fig. 1); an egress door disposed at the other end of the cooking tunnel (second door 15, Fig.1); a plurality of sealing means carried by the conveyor for providing a seal between the ingress door and the cooking tunnel and between the egress door and the cooking tunnel (both doors 15 have seal 25).

4. Claims 34-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis and US Patent 6,655,373 to Wiker (Wiker).

In reference to claim 34-36

Miller in view of Caridis and Jones discloses wherein the thermal means is a heater (oven heating means 41, Caridis), but is silent to whether the heating means is powered by gaseous fuel (Caridis mentions using a "direct open flame").

Wiker teaches a conveyor oven similar to that of Caridis that teaches the use of gaseous fuel (natural gas and propane, column 3 lines 12-14). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller and Wiker for the purpose of using either propane or natural gas as a fuel for a heater in a conveyor oven, because there are a limited number of appropriate choices for fuel to power a gaseous heater and they are obvious choices based on preference and availability.

5. Claims 7, 21-25 and 43 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 3,548,152 to Klepzig (Klepzig).

In reference to claim 7

Miller in view of Caridis and Jones discloses the oven of claim 1, but does not teach at least one odor filter.

Klepzig teaches an oven with at least one catalytic filter (column 2 lines 60-62).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Miller with the filter of Klepzig for the purpose of reducing odor. It is well known in the art to use a catalytic filter to reduce odor and remove contaminates from the exhaust gas.

In reference to claim 43

Miller in view of Caridis, Jones and Klepzig discloses the oven of claim 7 wherein the odor filter is a catalytic odor filter (Klepzig column 2 lines 61-62). As evidenced by Diachuk (4,350,504), catalytic filters control odors (column 8 lines 5-20).

In reference to claim 21

Miller in view of Caridis and Jones discloses an oven as defined in claim 1 further comprising: an egress opening to allow the gas to exit the cooking chamber (gas exits the cooking chamber through exhaust stack 16 and also at the outlet 12, Fig. 1). However, Miller does not teach a catalyst located within said egress opening.

Klepzig teaches a catalytic filter located where gas exits a cooking chamber (57, Fig. 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Caridis with the catalytic filter of Klepzig, because as stated above in the rejection of claims 7 and 43 it is well known in the art to use a catalytic filter to reduce odor and remove contaminates from the exhaust gas and it would have been obvious to place the filter where gas exits the cooking chamber.

In reference to claim 22-25

Miller in view of Caridis, Jones and Klepzig discloses wherein said egress opening is located in a top wall of the cooking chamber (the exhaust exits the chamber through stack 16 which is on the top wall, Caridis. Caridis does not teach that the egress opening is located on the side wall, back wall or the bottom wall.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to shirt the location of the egress opening for the purpose of removing the exhaust fumes from the desired location. The function of removing contaminates from the exhaust fumes would not be affected by the location of the egress opening as long as the fumes passed through the filter before exiting the chamber.

6. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 2,563,253 to Levin (Levin).

In reference to claim 8

Miller in view of Caridis and Jones discloses the oven of claim 1, but does not teach a damper means for adjusting the amount of said gas delivered via said conduit means to said first, second, first lower and second lower gas directing means.

Levin teaches a damper means (38, Fig. I) for adjusting the amount of said gas delivered through a conduit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Miller with the damper means of Levin for the purpose of controlling the airflow of the individual blower fans and therefore control the amount of gas delivered through the conduit. Dampers are a well known means for controlling the airflow supplied through a conduit to a chamber. One simple example is the damper on an air vent controlling the supply of cold or hot air into a room.

7. Claims 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 4,924,763 to Bingham (Bingham).

In reference to claim 12

Miller in view of Caridis and Jones discloses the oven of claim 1, but does not teach to a control means with a toggle switch.

Bingham teaches a compact pizza oven with toggle switches that controls the blowers or fans (column 4 lines 27-29).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Miller with the toggle switches of Bingham to control the fans of Miller. Miller is silent as to the specifics of his controls for operating the conveyor oven. The oven of Miller would obviously include some type of control feature to operate the oven. Furthermore, it is common in the art to control the operation of a fan with a simple toggle switch that turns the fan motor on or off. This feature can be found extensively in prior are and therefore would be an extremely obvious feature to add to an oven.

In reference to claim 13

Miller in view of Caridis, Jones and Bingham discloses the oven of claim 12 wherein the toggle switch controls the flow means (Bingham column 4 lines 27-29).

8. Claims 14 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis and US Patent 5,277,105 to Bruno et al. (Bruno).

In reference to claim 14 and 15

Miller in view of Caridis and Jones discloses an oven control means, but is silent to the particular structure of the controls.

Bruno teaches a conveyor with a rotary switch for the purpose of controlling the hot air blower (knob 48, Fig. 1). Bruno teaches that the rotary switch controls the flow means (Column 5 line 4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Miller with the knob of Bruno to control various functions of the oven including the flow means. Simple rotary switches are very well known in the art and would be an obvious choice for a control interface.

9. Claim 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 6,012,442 to Faraj (Faraj).

In reference to claim 37

Miller in view of Caridis and Jones discloses different heating means such as gas, electric or thermo fluid heaters, but does not teach a speed cooking oven.

Faraj teaches a speed cooking oven where food is heated from all sides to speed up the cooking time (see Fig. 1, where charcoal can be placed on shelves 35 and 36 to surround the food product).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the conveyor oven of Miller with the speed cooking oven of Faraj for the purpose of cooking the food product faster without increasing the temperature of the gas and burning the food product.

10. Claim 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US 6,114,664 to Cook et al.

In reference to claim 39

Miller in view of Caridis and Jones discloses different heating means such as gas, electric or thermo fluid heaters, but he does not teach an accelerated cooking oven.

Cook teaches an accelerated cooking oven (column 4 lines 44-59) which uses a convection heater in combination with a fan in order to accelerate the cooking process.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the conveyor oven of Miller with Cook for the purpose of cooking the food product at a faster rate and increasing the conveyor output of the food product.

20. Claim 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 5,927,265 to McKee et al. (McKee).

In reference to claim 40

Miller in view of Caridis and Jones discloses a conveyor oven, but does not teach a recycling oven where most of the heated air is recirculated instead of vented to the atmosphere.

McKee teaches a recycling oven (column 2 and 3 lines 55-67 and 1-10).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the conveyor oven of Miller with McKee for the purpose of recycling the heated air so as to increase the efficiency of the oven and

lower the cost of operation.

11. Claims 44-46 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US Patent 6,250,296 to Norris et al.

In reference to claim 44

Miller in view of Caridis and Jones discloses the oven of claim 1, but does not teach a bleed gas flow system further comprising: a gas bleed chamber and an odor filter within the gas bleed chamber. Norris teaches a bleed gas flow system (column 11 lines 10-28) further comprising: a gas bleed chamber (return air chamber 28b), and an odor filter within the gas bleed chamber (filters 130 and 132 and catalytic converters 162 disposed in the return air chamber of the oven).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the conveyor oven of Miller with the recirculating air system of Norris for the purpose of increasing the efficiency of the oven by reusing the exhaust gases.

In reference to claim 45

Miller in view of Caridis, Jones and Norris teaches an odor filter that causes catalytic destruction of cooking by-products (catalytic converters 162, Norris).

In reference to claim 46

Miller in view of Caridis, Jones and Norris teaches pre-heater to heat the bleed gas flow prior to the gas entering the catalytic odor filter (air is heated in the return air chamber 28b, column 11 lines 20-25, Norris).

12. Claims 47-52 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis and Jones.

In reference to claim 47

Miller discloses a conveyor oven(see Fig. 1) for cooking a food product (90), comprising: a. a cooking tunnel (11) comprising: i. a housing (14). Miller does not teach defining therein first and second cooking zones **each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel**.

Miller does not teach means for Supplying heated gas to the first cooking zone; means for supplying heated gas to the second cooking zone.

Caridis teaches means for Supplying heated gas to the first cooking zone (blower 48, Fig. 3); means for supplying heated gas to the second cooking zone (blower 45).

Miller discloses means for supplying microwave energy (Miller teaches a heat source 21 which can be a microwave such as a magnetron, col. 6 lines 21-36) to the first cooking zone; and means for supplying microwave energy to the second cooking zone; and a conveyor (conveyor 30) configured to (i) convey (the food product is conveyed to the oven cavity where a control program stops the motor to the conveyor and closes the doors so that the food product can be heated, Col. 9 lines 5-30) .

Caridis teaches that the conveyor moves a food product from the first cooking zone to the second cooking zone.

Miller teaches that the food product dwells for a controllable length of time (Col. 9 lines 5-30).

Caridis teaches that the belt is configured to convey the food product from the first cooking zone to the second cooking zone (Caridis teaches multiple cooking zones as the food product is conveyed through the oven).

Jones teaches a high speed conveyor cooking oven (see Fig. 3) with first (first cooking zone 31A) and second cooking zones (second cooking zone 31B) where **each cooking zone** (31A and 31B) **comprising a separate and discrete cooking area** (31A and 31B each have separate heating elements 17A and 17B, which are capable of cooking the food products 12 at the same or different temperatures, see Col. 6 lines 35-45 and Col. 6 lines 64-67 and Col. 7 lines 1-7) **within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel.**

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Caridis for the purpose of providing Miller's apparatus with a convective cooking means and multiple zones to impart different cooking conditions to the food product. It is well known to someone of ordinary skill in the art to combine microwave and convective cooking so that the food product is cooked rapidly without impacting negative flavor characteristics on the food which is inherent in food cooked in a microwave. Furthermore, combined microwave and convective ovens are widely used and well known. To apply this concept to a conveyor oven would have been obvious, because there are only so many known options to cook

a food product more quickly. To solve this problem, one of ordinary skill in the art would have considered a microwave generator. Furthermore, it would have been obvious to one of ordinary skill to combine Miller with Caridis, because all of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Jones for the purpose of providing the conveyor oven of Miller with multiple cooking zones capable of cooking a food product at the same or different temperature in each zone. It is well known in the art that in some instances it is desirable to cook a food product under different temperature conditions during the cooking process. Common examples would be thawing and browning a food product. The optimum temperature for thawing and browning a food product are very different as explained by Jones. Therefore it would have been obvious to one of ordinary skill to design a conveyor oven which was capable of cooking foods at different temperatures throughout the cooking process in light of the teachings of Jones.

In reference to claim 48

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 47 in which the cooking tunnel further comprises means for inhibiting escape of

microwave energy therefrom (the doors of Miller close when the microwave is activated and stop microwave energy from leaving the chamber).

In reference to claim 49

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 48 in which the escape-inhibiting means comprises (i) a moveable ingress door (first door 15, Fig. 1, Miller) and (ii) a moveable egress door (second door 15).

In reference to claim 50

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 49 in which the ingress and egress doors are closed when microwave energy is being supplied to either of the first or second cooking zones (the food product is conveyed to the oven cavity where a control program stops the motor to the conveyor and closes the doors so that the food product can be heated, Col. 9 lines 5-30).

In reference to claim 51

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 50 in which at least one of the ingress or egress doors is open when microwave energy is not being supplied to either of the first or second cooking zones (when the food is done cooking, the controller of Miller opens the door 15, Col. 9 lines 23-36).

In reference to claim 52

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 51 in which at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone (when the food is done cooking the door 15 of Miller opens and the conveyor carries the

food out of the cooking zone). Caridis teaches multiple cooking zones, see the rejection of claim 1.

13. Claim 53 rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Caridis, Jones and US 4,949,629 to Leary et al.

In reference to claim 53

Miller in view of Caridis and Jones discloses a conveyor oven according to claim 52 in which (i) the conveyor comprises a belt (belt 30, Miller) having an upper surface (top of 30) for receiving the food product (see the food product on belt 30, Fig. 1) and (ii) the means for supplying heated gas (Caridis discloses fans 48) to the first cooking zone, but does not teach where the heated gas flows toward the food product at an angle other than normal to the upper surface of the belt.

Leary teaches a conveyor oven with distinct cooking zones where the heated gas enters the cooking chamber at an angle not normal to the conveyor belt (see Fig. 2 where orifices 76 are not normal to the upper surface of the conveyor belt).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Miller with Caridis and Leary for the purpose of impinging the food with hot gases from an angle rather than normal to the top surface of the conveyor belt. Delivering the gases at an angle would help to induce turbulence in the gases and help to better transfer heat to the food product. This type of impingement is known to decrease the overall cooking time. This would be advantageous in a conveyor system, because it would increase the amount of food cooked over a time period and thereby increase the production rate. Also, it is well

known to deliver gases at an angle to cook food in a conveyor oven as evidenced by Leary and it would have been obvious to combine Miller and Leary, because all of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Double Patenting

14. Claim 1 and 2 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 7,055,518 in view of Jones and Miller.

In regards to claim 1, U.S. Patent No. 7,055,518 discloses a conveyor oven (a speed cooking oven for cooking a food product by hot gas, see claim 1 of 7,055,518) for cooking a food product (a speed cooking oven for cooking a food product by hot gas, claim 1), but '518 does not teach a cooking tunnel comprising: at least first and second cooking zones **each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel**

'518 discloses a housing defining (a housing defining a cooking chamber having a top, bottom, right side wall, left side wall and back wall, see claim 1, '518); a cooking chamber;

‘518 does not teach means for supplying microwave energy to the cooking chamber.

. Miller teaches a housing (14) defining a cooking chamber (11); means for supplying microwave energy to the cooking chamber (Miller teaches a heat source 21 which can be a microwave such as a magnetron, col. 6 lines 21-36):

‘518 teaches a conduit means (a conduit means, claim 1) for circulating gas to and from the cooking chamber; a flow means (a flow means for causing circulation of the gas, claim 1) for causing circulation of the gas; a means for heating the gas (a thermal means for heating the gas, claim 1); a first gas directing means (a first gas directing means associated with the conduit means and disposed above the food product, claim 1) disposed above the food product; the first gas directing means being operably associated with the conduit means (the first gas directing means and the conduit means are operably associated since they are in fluid communication, see Fig. 1 of ‘518); and a second gas (a second gas directing means associated with the conduit means disposed above the food product, wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon the upper surface of the food product, claim 1) directing means disposed above the food product, the second gas directing means also being operably associated with the conduit means (the second gas directing means and the conduit means are operably associated since they are in fluid communication, see Fig. 1 of ‘518); wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide (the first

gas directing means to collide with the gas from the second gas directing means , claim 1) with the gas from the second gas directing means upon or above the upper surface of the food product. '518 does not teach and a conveyor for conveying products through the cooking zone.

'518 does not teach means for inhibiting escape of microwave energy from the cooking tunnel, such means comprising a moveable ingress door and a moveable egress door; and a conveyor comprising a belt configured to (i) convey the food product from the first cooking zone to the second cooking zone and (ii) cause the food product to dwell for a controllable length of time in at least the first cooking zone; and in which the ingress and egress doors are closed when microwave energy is being supplied to the first cooking zone and at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone.

Jones teaches a high speed conveyor cooking oven with a cooking tunnel (see Fig. 3) with first (first cooking zone 31A) and second cooking zones (second cooking zone 31B) where **each cooking zone** (31A and 31B) **comprising a separate and discrete cooking area** (31A and 31B each have separate heating elements 17A and 17B, which are capable of cooking the food products 12 at the same or different temperatures, see Col. 6 lines 35-45 and Col. 6 lines 64-67 and Col. 7 lines 1-7) **within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel.**

Miller teaches a housing (14) defining a cooking chamber (11); means for supplying microwave energy to the cooking chamber (Miller teaches a heat source 21 which can be a microwave such as a magnetron, col. 6 lines 21-36):

Miller teaches means for inhibiting escape of microwave energy (door 15) from the cooking tunnel, such means comprising a moveable ingress door (first door 15 where food enters through the conveyor) and a moveable egress door (second door 15 in which food exits the cooking chamber); and a conveyor (conveyor belt 30) comprising a belt (belt on 30).

Miller teaches that the food product dwells (the food product is conveyed to the oven cavity where a control program stops the motor to the conveyor and closes the doors so that the food product can be heated, Col. 9 lines 5-30) for a controllable length of time in at least the first cooking zone (Miller only discloses a first cooking zone); and in which the ingress and egress doors (doors 15) are closed (Col. 9 lines 11-16) when microwave energy is being supplied (Miller discloses that the heat source 21 can be a microwave) to the first cooking zone and at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone (when the food product is done heating the control of Miller opens the doors and conveys the food out of the chamber. Miller does not teach however that there is a second cooking zone).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine U.S. Patent No. 7,055,518 with Jones for the purpose of providing U.S. Patent No. 7,055,518 with multiple cooking zones capable of

cooking a food product at the same or different temperature in each zone. It is well known in the art that in some instances it is desirable to cook a food product under different temperature conditions during the cooking process. Common examples would be thawing and browning a food product. The optimum temperature for thawing and browning a food product are very different as explained by Jones. Therefore it would have been obvious to one of ordinary skill to design a conveyor oven which was capable of cooking foods at different temperatures throughout the cooking process in light of the teachings of Jones.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine U.S. Patent No. 7,055,518 with Miller for the purpose of cooking the food product more quickly by using a microwave generator. It is well known to someone of ordinary skill in the art that using microwaves to cook a food in combination with other cooking means can decrease the total cook time significantly. Therefore, it would have been obvious to someone of ordinary skill in the art to combine U.S. Patent No. 7,055,518 with Miller so that the cook time could be reduced and more food products could be cooked in less time.

Response to Arguments

14. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

In regards to claims 1 and 2, the applicant has argued that neither reference Miller or Caridis teaches the multiple discrete cooking zones. The teaching reference of

Jones has been used to show that multiple cooking zones are well known to someone of ordinary skill in the art. See new rejection of claims 1 and 2 above.

In regards to claim 4, the rejection of claim 4 has been changed to reflect the teachings of Jones and multiple cooking zones.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL A. BERNSTEIN whose telephone number is (571)270-5803. The examiner can normally be reached on Monday-Friday 8:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAB

/Kenneth B Rinehart/
Supervisory Patent Examiner, Art Unit 3743